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ON THE CURE OF HERNIA,

IN RELATION TO PARENTS AND THE PROFESSION ;

A PAPER

READ BEFORE THE SURGICAL SECTION

OF THE

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BY

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ON THE CURE OF HERNIA;

IN RELATION TO PARENTS AND THE PROFESSION.

There is one aspect of the large subject of hernia which seems to have escaped that amount of notice which it deserves, and it is that to which I propose to call your attention.

The widespread prevalence of the affection has been variously stated, but the following tables will give a definite idea of its universality and danger such as we should hardly be prepared to expect.

TABLE I.

From Dr. J. H. Baxter's Statistics of Examination for Military Service in the United States Army during the War of the Rebellion.

STATIONS, &c.	Period of Observation in years.	Total Number Examined.	Total Number rejected.	Number rejected because of Hernia.	Ratio per 1,000 of Rejections because of Hernia.
France	3	126,669	46,669		31·200
Department of Seine	11	26,083	11,148		31·900
United States (Volunteers) ..	2	501,068	162,820	22,285	44·475
United States (Drafted Men) 18 to 25 years only	2	501,002	141,688	15,847	31·631
French Conscription, 1831— 1837	7	754,875		24,222	31·24

+ TABLE II.

The following Table shows the result of examination of 334,321 Recruits, Substitutes, Drafted and enrolled men of various nationalities throughout the United States :—

DISEASE.	Number Rejected.	Ratio of Rejected per 1,000.
Hernia, kind not specified	651	1·947
“ Umbilical	317	0·948
“ Ventral	328	0·981
“ Right Inguinal	8,598	25·718
“ Left Inguinal	5,420	16·212
“ Double Inguinal	1,166	3·488
“ Right Femoral	277	0·829
“ Left Femoral	110	0·329
“ Double Femoral	34	0·102

To say that according to Malgaigne 1 in every 13 of French males are ruptured, or according to Arnand 1 in 8, conveys but a faint impression on one's mind; but when we see that of a total of recruits examined in two years for the United States Army, no less than 38,132 were rejected absolutely on that account, we can better estimate it. In other words, the services of 38,132 men were lost to the country for defence on that occasion alone.

If we take the population of England and Wales at about 26,000,000, and estimate at a low calculation that one in twenty have hernia, we may take it there are in this country more than a million and a quarter of hernial subjects. What becomes of all these persons? They are not confined to any one class, although the death-rate is, as we should expect, much greater among the labouring classes. Of the large number who wear trusses, the London Truss Society relieves about 9,000 a year; and Mr. Banks, the Manager of Messrs. Maw, Son & Thompson's, tells me that they make at the rate of about 55,000 a year, most of which are for this country. This is, of course, independent of those made by other makers, which would amount in the aggregate to probably about as many more.

Many others drag on a miserable existence, because unable to wear any support or obtain any relief; some are so sensitive about it as to make it a secret, silently but surely destroying their comfort and peace of mind; probably many, ignorant of its existence or unaware of the danger, take no heed of its presence; and a considerable residue come to grief by strangulation.

But more than this, it frequently gives rise to a morbid mental condition: the patient becomes a prey to every depressing influence which brooding over such a state is certain to induce; he conceives himself to be the victim of a defect which can only result in physical incapacity and misery: dyspepsia and its innumerable train of grievances follow, and the life of the hernial man is, in many instances, rendered an unhappy, and too often an useless one.

The best evidence I can afford of its fatality is in Tables III. and V., in which we find that the mean annual rate of mortality for the year 1879, was 45 deaths to every 1,000,000 living; and to make the significance of this more manifest, I may point out that while calculus killed 237 persons in the year 1879; and all malformations (except spina bifida) put together, 619; gout, 682; and all uterine diseases only 1,068—hernia caused the death of 1,119 in the same period (Table IV.) And if we examine Table V. we find that 263 deaths occurred during 1879 from operation for strangulated hernia—*i.e.*, nearly one-fourth of the total number of deaths.

TABLE III.

Mean Annual Rate of Mortality in England from Hernia during the 30 Years, 1850—1879, and in each QUINQUENNIAD of that period; also the rate of Mortality in the Years 1877, 1878, and 1879.

ANNUAL DEATHS TO 1,000,000 LIVING.

30 Years 1850-79	5 Years 1850-54	5 Years 1855-59	5 Years 1860-64	5 Years 1865-69	5 Years 1870-74	5 Years 1875-79	Year 1877	Year 1878	Year 1879
43·2	41·2	43·8	41·4	43·0	44·0	45·8	45	46	45

Annual Report of Registrar General. Table 34.

TABLE IV.

Deaths in England from five causes, including Hernia, arranged in the order of their Fatality: and the Proportional Numbers dying from each cause, to 1,000,000 Deaths from specified causes.

Causes of Death	No. of Deaths registered in the Year 1879	Proportional Number from each cause to 1,000,000 Deaths from specified causes	
		10 Years, 1869-78	Year 1879.
Hernia	1,119	2,049	2,133
Uterus Disease	1,068	2,079	2,035
Gout	682	1,038	1,300
Malformations	619	982	1,180
(Exclusive of Spina Bifida)			
Calculus	237	436	452

Taken from Tables 33 and 35 (*ibid*).

TABLE V.

Table showing the Number of Deaths from Hernia of all kinds in England during a series of twenty-eight years, and the number of Deaths after Operation.

Year.	Deaths from Hernia at all ages.		Deaths under 5 years.		Total Number of Deaths.	Deaths after Operation.		Proportion of Deaths after Operation to whole No. of Deaths per cent.
	Male.	Female.	Male.	Female.		Male.	Female.	
1852	370	313	65	13	683	11	14	3.06
1853	406	373	53	12				
1854	407	421	45	11				
1855	426	448	43	15				
1856	441	407	50	7				
1857	414	400	46	13				
1858	416	350	42	10				
1859	443	319	52	6				
1860	418	399	51	10				
1861	408	444	43	9				
1862	405	422	45	9				
1863	424	424	54	8				
1864	409	396	44	11				
1865	463	427	48	17				
1866	465	409	47	11				
1867	467	460	37	15				
1868	461	446	33	10				
1869	457	494	53	15				
1870	487	492	52	5				
1871	519	503	50	10	1022	75	96	16.73
1872	524	489	54	15				
1873	557	457	66	22	1013	90	92	17.96
1874	512	500	53	15				
1875	585	549	65	17	1014	76	78	15.18
1876	533	555	63	19				
1877	565	529	70	16	1094	87	106	17.84
1878	565	582	83	16				
1879	546	573	55	12	1119	101	111	18.48
					1119	128	135	23.50

Malgaigne has shewn that the hernial population from the age of one to thirteen years disappears four times more quickly than the general population. This can only be produced in one of two ways—by cure or by death. Although radical cure is possible, and frequently easy at this stage, yet it must be admitted that among the poorer classes it is rare. . . . But even supposing that one half of the hernial subjects of this age are cured, the statistical records show that death occurs twice as

frequently in hernial infants as in others. The proportion goes on ascending with age, until at 40 years it reaches 1 in 9, and at the age of 75 the hernial subjects form nearly one-third of the whole male population. After this period the influence of hernia in accelerating death is very marked. From 75 to 100 years, men so afflicted exhibit a mortality nine times greater than that of one hundred others of the same age.*

TABLE VI.

Table showing the Total Number of In-patient Cases of Strangulated Hernia admitted in 11 Hospitals during a series of years, with the Number of Operations and Rate of Mortality.

Name of Hospital	Year	Total No. of Cases admitted	No. of Operations	Recovered	Died	Rate of Mortality of Operations per cent.
St. Thomas's	1866	27	16	9	7	43'75
"	1867	24	12	6	6	50'00
"	1868	26	12	10	2	16'66
"	1869	25	8	4	4	50'00
"	1870	27	14	6	8	57'14
"	1871	23	13	6	7	53'84
"	1872	44	15	7	8	53'33
"	1873	29	14	6	8	57'14
"	1874	33	16	8	8	50'00
"	1875	41	23	9	14	60'86
"	1876	40	16	5	11	68'75
"	1877	57	30	19	11	36'66
"	1878	53	24	14	10	41'66
Total	13 Yrs.	449	213	109	104	Average 48'82
St. Bartholomew's	1865	57	30	19	11	36'66
"	1866	56	23	15	8	34'78
"	1867	55	20	7	13	65'00
"	1868	47	27	12	15	55'55
"	†1869	49	34	25	9	26'47
"	†1870	43	26	16	10	38'46
"	1871	57	31	20	11	35'48
"	†1872	77	36	20	16	44'44
"	†1873	58	28	23	5	17'85
"	†1874	67	28	15	13	46'42
"	1875	66	30	14	16	53'33
"	1876	69	24	17	7	29'17
"	1877	61	28	14	14	50'00
"	1878	58	18	12	6	33'33
"	1879	67	32	22	10	31'25
Total	15 Yrs.	887	415	251	164	Average 39'51

* Teale, on Hernia, p. 39.

† In each of these years some were "Discharged unrelieved," after Operation—in all 14.

TABLE VI.—(*Continued.*)

Name of Hospital	Year	Total No. of Cases admitted	No. of Operations	Recovered	Died	Rate of Mortality of Operations per cent.
Guy's Hospital	1861 to 1868 inclusive	424	143	70	73	51·04
"	1869	not given	—	—	—	—
"	1870	"	39	27	12	30·76
"	1871	"	44	28	16	36·36
"	1872	51	43	33	10	23·25
"	1873	40	38	24	14	36·84
"	1874	not given	25	13	12	48·00
"	1875	"	22	15	7	31·81
"	1876	"	30	17	13	43·33
"	1877	"	31	21	10	32·25
"	1878	"	26	21	5	19·30
Total	17 Yrs.		441	269	172	Average 39·00
St. George's	1866	40	16	11	5	31·25
"	1867	39	17	11	6	35·29
"	1868	43	22	14	8	36·36
"	1869	22	20	12	8	40·00
"	1870	33	15	6	9	60·00
"	1871	not given	20	12	8	40·00
"	1872	21	12	9	42·85	
"	1873	20	16	11	5	31·25
"	1874	16	6	3	3	50·00
"	1875	22	14	9	5	35·71
"	1876	29	15	5	10	66·66
"	1877	28	18	9	9	50·00
"	1878	29	13	5	8	61·53
Total	13 Yrs.	321	213	120	93	Average 43·66
Middlesex	1867	18	6	5	1	16·66
"	1868	20	10	18	2	20·00
"	1869	19	11	8	3	27·27
"	1870	21	12	7	5	41·66
"	1871	21	13	10	3	23·07
"	1872	13	8	6	2	25·00
"	1873	18	12	10	2	16·66
"	1874	22	13	7	6	46·15
"	1875	17	6	4	2	33·33
Total	9 Yrs.	169	91	75	26	Average 28·57

TABLE VI.—(Continued.)

Name of Hospital	Year	Total No. of Cases admitted	No. of Operations	Recovered	Died	Rate of Mortality of Operations per cent.
London Hospital	1863	88	27	15	12	44·44
" "	1864	65	24	13	11	45·83
" "	1865	not given	29	18	11	39·93
" "	1866	"	19	14	5	26·31
Total	4 Yrs.	99	60	39		Average 39·39
Bristol Royal Infirmary	1877		7	6	1	14·28
" "	1878 {		23	14	9	39·13
" "	1879 }					
Total	3 Yrs.	30	20	10		Average 33·33
North Staffordshire Infirmary	1862	9	1	—	1	
" "	1863	5	2	1	1	
" "	1864	5	2	1	1	
" "	1865	8	1	—	1	
" "	1866	5	1	1	—	
" "	1867	5	1	—	1	
" "	1868	8	4	3	1	
" "	1869	5	3	2	1	
" "	1870	4	1	1	—	
" "	1871	3	0	—	—	
" "	1872	0	0	—	—	
" "	1873	5	2	2	—	
" "	1874	3	3	2	1	
" "	1875	1	0	—	—	
" "	1876	5	4	3	1	
" "	1877	5	2	2	—	
" "	1878	7	5	3	2	
" "	1879	19	5	4	1	
" "	1880	8	2	2	0	
Total	19 Yrs.	110	39	27	12	Average 30·76
Liverpool Royal Infirmary ...	1870	15	6	2	4	66·6
" " ...	1871	20	8	2	6	75·0
" " ...	1872	13	6	2	4	66·6
" " ...	1873	15	4	2	2	50·0
" " ...	1874	10	4	2	2	50·0
" " ...	1875	14	7	3	4	57·1
" " ...	1876	20	5	4	1	20·0
" " ...	1877	25	11	5	6	54·5
" " ...	1878	21	7	6	1	14·2
" " ...	1879	25	13	12	1	7·6
" " ...	1880	23	8	7	1	12·5
Total	11 Yrs.	201	79	47	32	Average 40·50

TABLE VI.—(*Continued.*)

Name of Hospital	Year	Total No. of Cases admitted	No. of Operations	Recovered	Died	Rate of Mortality of Operations per cent.
Leeds General Infirmary	1870		9	6	3	33·33
"	1871		9	7	2	22·20
"	1872		14	8	6	42·86
"	1873		5	2	3	60·00
"	1874		11	4	7	63·64
"	1875		10	4	6	60·00
"	1876		4	2	2	50·00
"	1877		12	7	5	41·70
"	1878		7	5	2	28·57
"	1879		7	6	1	14·30
"	1880		8	3	5	62·50
Total	11 Yrs.	96	54	42		Average 43·61
Manchester Royal Infirmary	1870	12	7	5	2	28·57
"	1871	25	9	2	7	77·77
"	1872	27	11	2	9	81·81
"	1873	24	16	4	12	75·00
"	1874	23	10	5	5	50·00
"	1875	22	9	3	6	66·66
"	1876	31	14	5	9	64·28
"	1877	35	16	7	9	56·25
"	1878	44	19	9	10	52·63
"	1879	43	24	15	9	37·50
"	1880	33	19	9	10	52·63
Total	11 Yrs.	319	154	66	88	Average 57·14

TABLE VII.

Summary of Returns from eleven Hospitals, showing Number of Operations for Strangulated Hernia, Number of Deaths, and Average Rate of Mortality.

NAME OF HOSPITAL.	Number of Operations.	Number of Deaths.	Average Mortality per cent.
St. Thomas's	213	104	48·82
St. Bartholomew's	415	164	39·51
Guy's	441	172	39·00
St. George's	213	93	43·66
Middlesex	91	26	28·57
London Hospital	99	39	39·39
Bristol Royal Infirmary	30	10	33·33
North Staffordshire Infirmary	39	12	30·76
Liverpool Royal Infirmary	79	32	40·50
Leeds Infirmary	96	42	43·61
Manchester Royal Infirmary	154	88	57·14
Total	1870	782	41·80

In Table VI. and Table VII. it will be observed that the average rate of mortality after operation, in eleven large hospitals, taken from 1,870 cases, with 782 deaths, is 41.80 per cent. This shows very clearly the extreme fatality of those cases which have to be submitted to operation for strangulation. It is difficult to estimate the proportion of strangulation cases, but they must be numerous. Further, as shewn in Table V., the proportion of deaths occurring under five years of age, constitutes about 7 per cent. of the whole, and, in a series given by Mr. Bryant,* 14 fatal cases of 83 recorded occurred under twenty years of age—*i.e.*, 16.87 per cent., and of these 7 were congenital. It seems tolerably certain that a large proportion of cases occurring in later life date really from infancy; for although they are not strictly speaking “congenital,” inasmuch as the congenital condition has disappeared *quoad* the hernia, yet the lax state of the abdominal rings has remained, with a corresponding liability to a reproduction of hernia at a future time. No doubt most surgeons have noticed how many of these cases present themselves. This is a strong argument in favour of effecting a cure while the rupture is recent, irrespective of the age of the patient. Of this I shall speak presently.

A hernial subject is debarred from many of the privileges which are open to others. If left an orphan while young, a presentation is obtained to enable him to enter a charity school, he will not be received; if while a boy, he wants to enter the army or navy, he is ineligible; if committed by the magistrates to an industrial school, he cannot be admitted, but must be relegated to prison; when he has to work hard for his living, he is unfitted for any laborious occupation; should he be willing to serve his country in any of the public services, he cannot be passed, and must seek some work for which he is in every respect far less otherwise fitted. If on the other hand, in a higher sphere of social condition, he is forbidden by the Jewish law to enter the ministry as a priest; and, in these more practical days, if he wishes to effect an insurance on his life, he will have to pay from 2s. 6d. to 7s. 6d. per cent. extra premium, and possibly, if he suffers from double rupture, may fail to find an office to insure his life at all. In the report on the Mortality Experiences of the Scottish Life Offices, 1869, it appears that of a total of 94,749 assured lives under observation, 842 have been

* “Guy’s Hospital Reports,” 1856, vol. ii, p. 73.

charged extra for hernia. This seems a small proportion, and one cannot quite understand why such a large addition to the premium should be charged unless the risk be proportionate.

So far as danger may arise, in 1879 from this cause alone, 1,119 deaths occurred, and 263 of these persons underwent operation (Table V.) Looking at the subject from this, its more serious aspect, it becomes the duty of the surgeon to consider whether he is justified in advising a palliative course of treatment. Veterinary surgeons have a keener sense of the value of their patients. If a colt is found suffering from hernia—and it is not an uncommon affection among colts—and if, when the testis ascends, the congenital rupture is not naturally cured, the veterinary surgeon operates without hesitation. "Bandages and all topical applications are found useless or worse" (W. Williams), and death occurring after radical cure is an extremely rare event. In pigs, too, scrotal hernia is very common, and the animal's life being considered of some value, he is worth curing, and this is most commonly done by castration. But prejudice, and the absence of accurate knowledge of the subject, would seem to have deterred most surgeons of the present day from advocating any such valuable relief for mankind.

Much might be urged against the use of trusses in a large number of cases, but this is hardly the occasion for it. That they are often quite useless, that in numbers of instances they increase the danger from strangulation, that they are expensive, troublesome, and annoying, few will deny. On the other hand, the number of cures effected by their instrumentality is infinitesimal, if we may judge from the report of the London Truss Society, where we find that of a total of 96,886 persons relieved by trusses, only 4,387 are stated to have been cured—*i.e.*, 4·53 per cent.!

Now, if it be possible to cure rupture early in life (thereby eliminating at once one-eighth of the whole number of cases) by an operation which shall be both safe and efficient, we are led to inquire, in the words of Mr. Spencer Wells, "whether it may not be better to operate even on young children, than to expose them for several years to the inconvenience of a truss, with the probability that, after all, a radical cure may not be obtained?"* Parents have a certain duty to perform towards their offspring in the matter of physical defects; and, in the performance of this duty, it is generally the province of the medical adviser to recommend the course which should be pursued.

With modern antiseptic precautions the maximum of safety may be attained, and the experience of late years has clearly shewn that operations near and connected with the peritoneum may be carried out not only without undue risk, but actually with less danger to life than many which are well recognized and almost universally advocated for the mere removal of deformity, or the relief of inconvenience. Hernia is surely a source of greater risk to life than club-foot, or harelip, or nævus, a crooked limb, or an ankylosed joint. Yet these are conditions for which an operation, and not unfrequently a fatal one, is readily admitted and recommended ; whereas it is thought usually sufficient to palliate hernia by the advice to wear a truss, and allow the dangers and other drawbacks incident to it to continue uncured. It is time this opinion changed, and I feel convinced that those who will not be unwilling to see for themselves the advantages of an operation for the cure of hernia over the uncertain and unsatisfactory treatment by trusses, will, in a large number of cases, advocate its adoption. Operative measures in modern days have not had a fair trial ; they have not been carried out on a sufficiently extensive scale to demonstrate their real value.

My own plan of operating in inguinal hernia I described in a paper read at Cork, in August, 1879.†

It is as follows. After proper preparation, and under the influence of an anaesthetic, in the case of an oblique inguinal rupture an incision is made in the skin of the scrotum over the fundus of the hernial sac, usually an inch and a half to two inches below the spine of the pubis, and the skin separated from the subcutaneous tissues for an extent proportionate to the size of the rupture and the length of the inguinal canal (as shewn on Plate 1.) The operator, standing on the patient's left, passes his left forefinger up to the internal abdominal ring, pushing before it and so invaginating the fascia and hernial sac to the same extent. After examining carefully the condition of the parts within reach of his finger, and the forefinger being retained in the hernial canal to protect the spermatic cord which lies underneath, and at the same time to close the internal ring against any descent of the bowel, the screw instrument—(figure 2)—is with the right hand passed into and through the skin of the groin so as to transfix the outer pillar of the internal ring at a point a little above that at which it has to pass through the conjoined tendon. Having given the screw a turn, it is next

made to pierce subcutaneously the conjoined tendon as high as it can safely be reached—the left forefinger of the operator carefully guarding the point of the instrument throughout. Another turn is now made, causing the screw to pass through the invaginated tissues, and again across from the external to the internal pillars as many times as the nature of the case will permit. It is sometimes more convenient to transfix the internal pillar first, but in this the operator must be guided by the nature of the case. The point of the instrument then appears through the scrotal opening, and is protected by a ball of solid india rubber—the handle lying flat on the abdomen, as shewn in figure 3 A. A pad and bandage is then applied carefully and firmly over the whole. Several of the operations have been performed under Lister's Spray method, and in some of them catgut or tendon ligature has been employed instead of allowing the screw to remain *in situ*: but the latter have not given such good results as the method with the screw alone. After a few days—usually seven to ten—sufficient irritation is excited to effect consolidation of the parts, and the screw is then removed, a light pad and bandage being kept applied until the tissues become firm, usually two to three weeks. In those instances in which a ligature is employed,—(see figure 3)—the ends are cut off level with the skin as soon as consolidation takes place: and usually in a few days both of the wounds close. After that, a truss is unnecessary, though I advise a pad truss without a spring* to be used for a time to give support in case of any undue strain while the cicatrices are weak.

I have now a record of thirty-four † cases, of which thirty have been quite successful, the remaining four being much benefitted, but not completely cured. No death has occurred, nor, indeed, any condition to call for serious anxiety in any case.

If by some simple and safe operation such as this, we can effect not only a radical cure of the hernia, but also an immediate and a permanent one; and if by so doing we can protect the subject of it from the multiform dangers and disabilities to which such a condition sooner or later must inevitably give rise, I cannot but believe that not only are we, as practical surgeons, justified in performing it; but that the fulfilment of such a duty is imperatively called for in all those cases which are fairly amenable to treatment.

* These are made by Maw, Son, and Thompson.

† The number is since increased to forty-four, all having recovered.

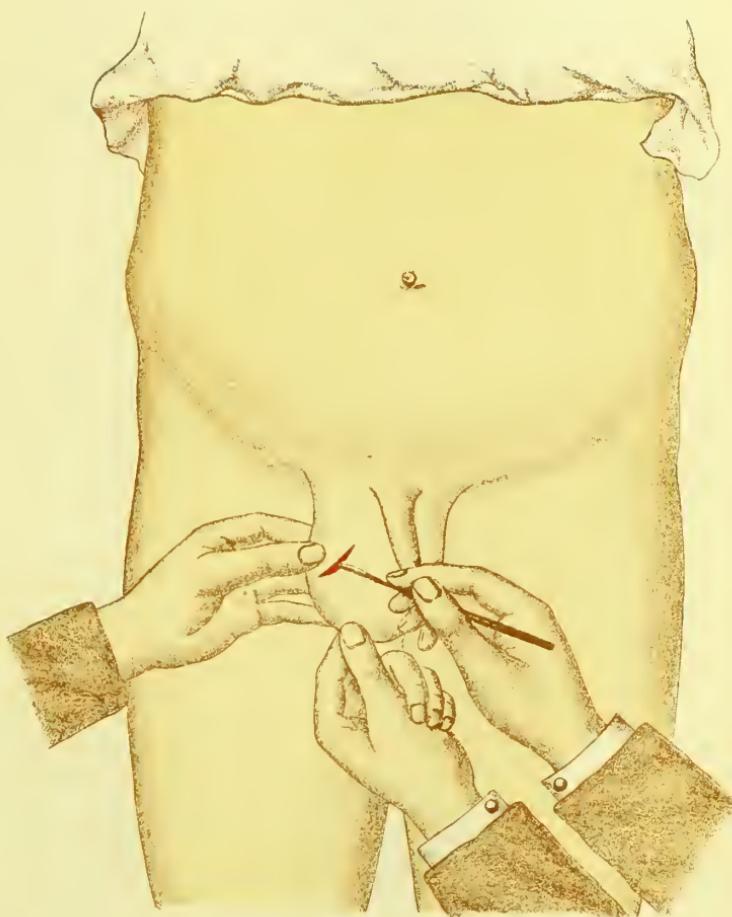


FIG. 1.

Shewing position of scrotal incision for subcutaneous separation of fascia.



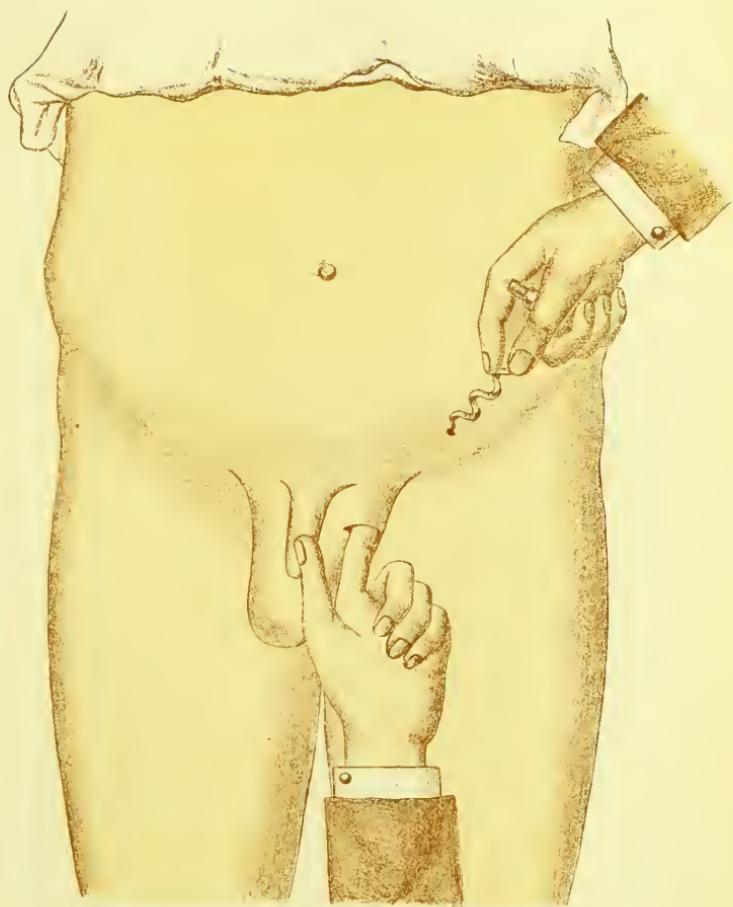


FIG. 2,

The operator with right hand piercing the skin with the screw, the left forefinger meeting it in the inguinal canal.



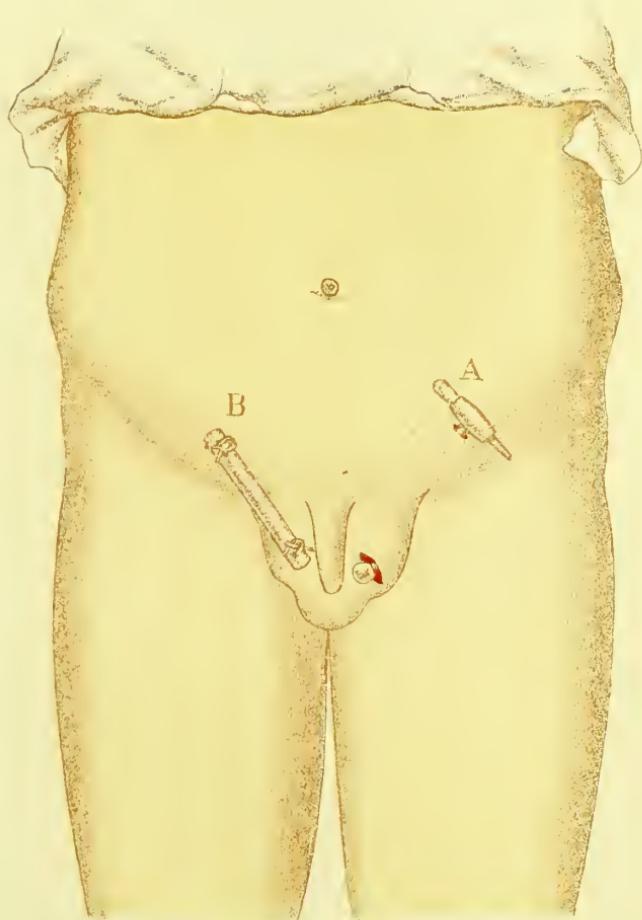
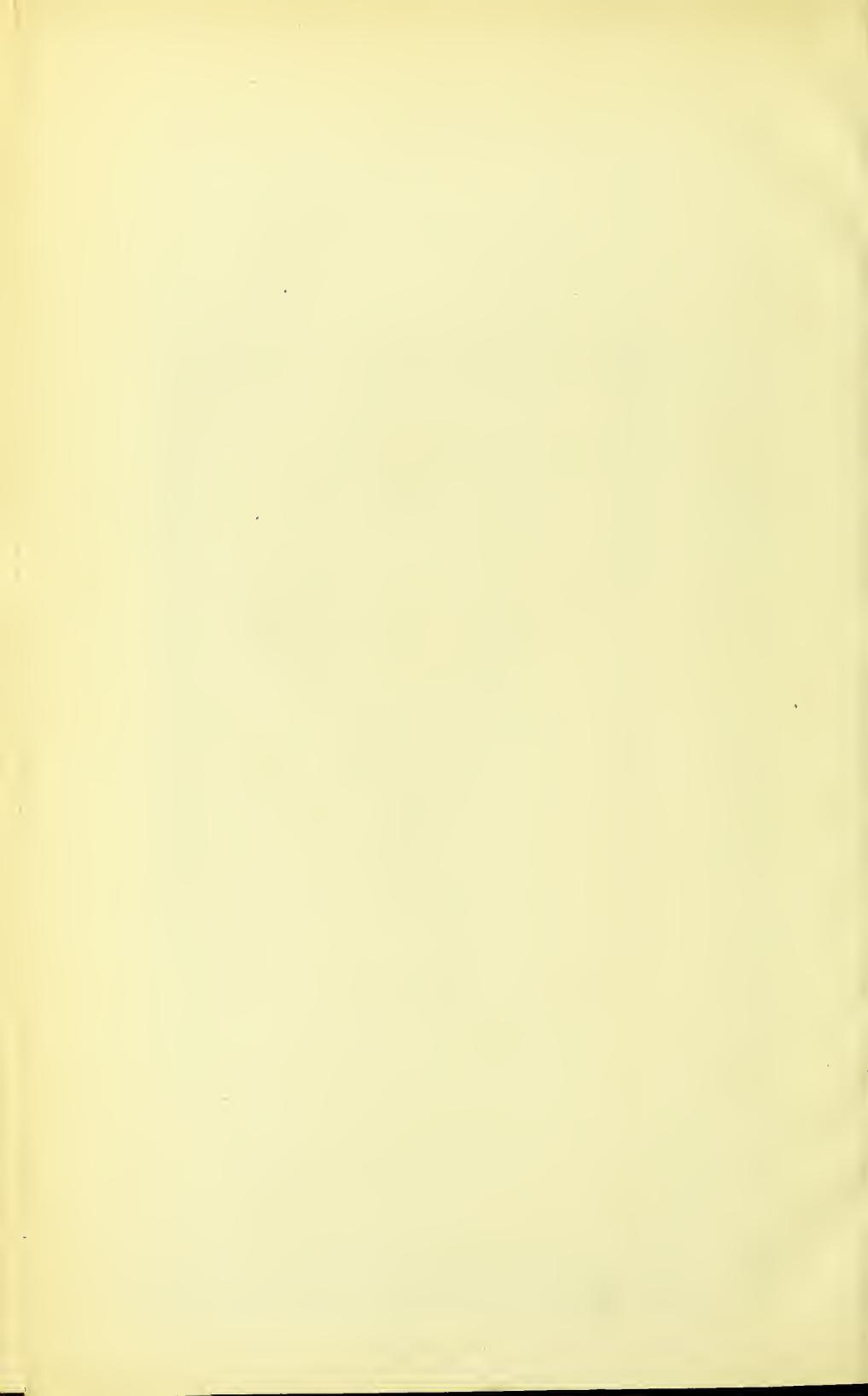


FIG. 3.

The screw left in position, with point protected by india rubber ball, is shown at A. The mode of fastening a ligature by means of glass rod at B.



Can the scientific surgery of the present day boast of nothing better than to follow the teaching of three hundred years ago? And are we to be told that because the barbarous customs of ancient days are unjustifiable and wicked—owing to their being based on a want of exact knowledge—the same sweeping condemnation is to be passed on the recent procedures for the cure of this serious and formidable affection? Surely not. Operations which will occur to every one, such as early ovariotomy, oöphorectomy, and so on, have been denounced as trenchantly as some would decry what I am now endeavouring to advocate; but the day will come, and is I trust rapidly approaching, when this branch of preventive surgery will achieve results of incalculable value to mankind, such as only large and increasing success can warrant.

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